REMARKS

Status of Claims

Claims 1 and 5-12 are pending, of which claims 1 and 11-12 are independent. Claims 1 and 11-12 have been amended to correct informalities in the claim language and to more clearly define the intended subject matter. Care has been taken to avoid introducing new matter.

Rejection under 35 U.S.C. § 102

Claims 11-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kezuka et al. (US 2002/0031710). This rejection is traversed for at least the following reasons.

Applicant respectfully submits that, at a minimum, Kezuka fails to disclose that the non-aqueous electrolyte does not include a monomer capable of being radical-polymerized, as recited by amended claims 11 and 12. In Kezuka, the electrolyte impregnated into the separator includes a monomer capable of being radically-polymerized so as to make a gelled electrolyte. The monomer in Kezuka is polymerized by using an organic peroxide which is a radical-polymerization starting agent.

In contrast, the negative electrode of the present disclosure has a film including an organic peroxide formed on its surface. Thus, in the present disclosure, a monomer capable of being radical-polymerized is not included in the non-aqueous electrolyte, the positive electrode or the negative electrode. As such, it is clear that, at a minimum, Kezuka fails to disclose the above identified feature of claims 11 and 12. Thus, Applicant requests that the Examiner withdraw the rejection of claims 11 and 12 under 35 U.S.C. § 102(b).

Rejection under 35 U.S.C. § 103

Claims 1 and 5-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kezuka et al. This rejection is traversed for at least the following reasons.

Applicant incorporates herein the arguments previously advanced in traversal of the rejection under 35 U.S.C. § 102(b) predicated upon Kezuka. Since claim 1 recites that the non-aqueous electrolyte does not include a monomer capable of being radical-polymerized, which is missing from Kezuka, claim 1 and all claims are patentable over the cited prior art.

Further, Applicant respectfully submits that Kezuka fails to disclose that the amount of the organic peroxide is a result effective variable which affects the capacity retention ratio of the battery. Applicant respectfully reminds the Examiner that "[a] particular parameter must first be recognized as a result-effective variable, i.e., a variable **which achieves a recognized result**, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation" (emphasis added). *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result- effective variable.) (see, M.P.E.P. § 2144.05).

In Kezuka, organic peroxides are added as a radical-polymerlization starting agent (see, paragraph [0046] of Kezuka), but Kezuka does not disclose how the amount of the organic peroxides affects the battery properties, in particular, the capacity retention rate as shown in Table 2 of the present specification. Accordingly, under *Antionie*, the Examiner's assertion has no merit.

Further, Applicant respectfully submits that the claimed amount of organic peroxide is critical to the battery properties, which exhibits the unexpected results as shown in Table 2 and paragraphs [0042] and [0086] of the present application. As shown in table 2, when the amount of the organic peroxide is less than 0.1 % (e.g., 0.05 % for Battery B1) and the amount of the organic peroxide is more than 5.0 % (e.g., 10 % for Battery B6), the capacity retention rates thereof are much lower (48 % and 54 %, respectively) that those of Batteries B2-B5 (76-85 %) in which the amount of the organic peroxide is 0.1-5.0 %. As such, it is clear that the claimed range of the organic peroxide (i.e., 0.1 to 5 % by weight of the non-aqueous electrolyte) is critical and the range exhibits the unexpected results.

As such, it is clear that it would not have been obvious to modify Kezuka's disclosure to arrive at the subject matter of claim 1. Accordingly, claim 1 and all claims dependent thereon are patentable. Thus, it is requested that the Examiner withdraw the rejections of claims 1 and 5-10 under 35 U.S.C. §103.

Conclusion

Having fully responded to all matters raised in the Office Action, Applicant submits that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicant's attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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